

Claims:

1. A syringe piston without a shaft, used in fat transplantation, disposed in a syringe-shaped cylindrical vessel, comprising:

5 a piston body without the shaft;
 a packing coupled with an outer surface of the piston body to form a seal between the piston body and the syringe-shaped cylindrical vessel;
 a free oil discharging hole communicated with the front side and the rear side of the piston body;
10 an opening and closing device for opening and closing the free oil discharging hole; and
 a filtering device disposed in a passage through which free oil is discharged to filter fat and pass the free oil.

15 2. The syringe piston used in fat transplantation as set forth in claim 1, further comprising a weight for increasing a total weight of the syringe piston.

20 3. The syringe piston used in fat transplantation as set forth in claim 2, wherein the weight takes the form of a metal ring coupled with the rear side of the piston body.

25 4. The syringe piston used in fat transplantation as set forth in claims 1 or 2, wherein the filtering device comprises a net filter having a pore diameter of $10\mu\text{m}$ to $100\mu\text{m}$.

30 5. The syringe piston used in fat transplantation as set forth in claim 4, wherein the filter is coupled with a filter groove formed in the front end of the piston body, the filter groove is closed by a cap having a thread and a plurality of holes penetrating the front and rear sides thereof to pass the free oil so that the filter is replaced by releasing the cap.

35 6. The syringe piston used in fat transplantation as set forth in claim 5, wherein the cap includes a protrusion formed in the front side of the cap and engaged with the front side of the cylindrical vessel.

7. The syringe piston used in fat transplantation as set forth in claims 1 or 2, wherein the free oil discharging hole includes a plurality of holes penetrating the front end of the piston body and the rear end of the piston body, and
the opening and closing device comprises:

5 a packing for covering the rear end of the piston body; and
a closing screw for fixing the packing.

8. The syringe piston used in fat transplantation as set forth in claim 4, wherein the free oil discharging hole includes a plurality of holes penetrating the front end of the piston body and the rear end of the piston body, and
10 the opening and closing device comprises:

a packing for covering the rear end of the piston body; and
a closing screw for fixing the packing.

15 9. The syringe piston used in fat transplantation as set forth in claims 1 or 2, wherein the filtering device comprises:

a cap for sealing the front side of the free oil discharging hole;
an outer filtering circumference disposed in the piston body to maintain a predetermined gap between the piston body and the inner circumference of the cylindrical vessel such that fat is filtered and the free oil passes therethrough; and
20 a through-hole formed between the outer filtering circumference and the packing and communicated between the free oil discharging hole of the piston body and the cap.

25 10. The syringe piston used in fat transplantation as set forth in claim 9, wherein the gap between the inner circumference of the cylindrical vessel and the outer filtering circumference ranges $10\mu\text{m}$ to $100\mu\text{m}$.

30 11. The syringe piston used in fat transplantation as set forth in claim 7, wherein the filtering device comprises:

a cap for sealing the front side of the free oil discharging hole;
an outer filtering circumference disposed in the piston body to maintain a predetermined gap between the piston body and the inner circumference of the cylindrical vessel such that fat is filtered and the free oil passes therethrough; and
35 a through-hole formed between the outer filtering circumference and the

packing and communicated between the free oil discharging hole of the piston body and the cap.

5 12. The syringe piston used in fat transplantation as set forth in claims 1 or 2, wherein the free oil discharging hole has a single central hole penetrating the front end of the piston body and the rear end of the piston body, and the opening and closing device for opening and closing the free oil discharging hole comprises:

10 first and second check valves disposed at the sides of the free oil discharging hole and operated by the external force; and

 first and second fixing covers having through-holes formed at the central portions to fix the first and second check valves to the piston body.

15 13. The syringe piston used in fat transplantation as set forth in claims 4 or 9, wherein the free oil discharging hole has a single central hole penetrating the front end of the piston body and the rear end of the piston body, and the opening and closing device for opening and closing the free oil discharging hole comprises:

20 first and second check valves disposed at the sides of the free oil discharging hole and operated by the external force; and

 first and second fixing covers having through-hole formed at the central portions to fix the first and second check valves to the piston body.